

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>JHTK-86-PCT</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/JP2004/010184</b>	International filing date (day/month/year) <b>16.07.2004</b>	Priority date (day/month/year) <b>17.07.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>G03F7/027, G02F1/1337, G03F7/40</b>		
Applicant <b>HITACHI CHEMICAL CO., LTD.</b>		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>8</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>3</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>	
Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-17 as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 3-8 as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 1, 2 received by this Authority on 17.02.2005
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1 as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☒ the claims, nos. 3-22
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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## Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application

☒ claims Nos. 2

because:

☐ the said international application, or the said claims Nos. \_\_\_\_\_  
relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. \_\_\_\_\_  
are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. \_\_\_\_\_ are so inadequately supported  
by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 2

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

☐ See Supplemental Box for further details.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	4-8	YES
	Claims	1, 3	NO
Inventive step (IS)	Claims		YES
	Claims	1, 3-8	NO
Industrial applicability (IA)	Claims	1, 3-8	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
Document 1:	JP 2003-177408 (Fujitsu Display Technologies Corp.), 27 June 2003; paragraphs [0159] and [0163] & US 2003/0095229 A1		
Document 2:	JP 2001/354730 (Dainippon Printing Co., Ltd.), 25 December 2001; paragraphs [0079]-[0081]		
Document 3:	JP 2002-244293 A (NOF Corp.), 30 August 2002; paragraph [0076]		
Document 4:	JP 2000-39709 A (JSR Corp.), 8 February 2000; example 14		
Document 5:	JP 2003-29405 A (JSR Corp.), 29 January 2003; claims and paragraphs [0021]-[0024] and [0043]-[0060]		
Document 6:	JP 2002-182388 A (Fuji Photo Film Co., Ltd.), 26 June 2002; claims and paragraphs [0002]-[0006], [0119] and [0142]		
Document 7:	JP 2003-131208 A (Toppan Printing Co., Ltd.), 8 May 2003; paragraph [0007]		
Document 8:	JP 2002-156629 A (AU Optronics Corp.), 31 May 2002; paragraph [0008] & US 2002/0031605 A1		
Claims 1 and 3			

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

The inventions set forth in claims 1 and 3 are not novel and do not involve an inventive step, because they are disclosed in documents 1-4, cited in the international search report.

Thus, the negative type photosensitive compositions and negative photosensitive elements disclosed in documents 1-3 are not substantially different in constitution, other than their application, from the inventions set forth in claims 1 and 3.

## Claims 4-8

The inventions set forth in claims 4-8 do not involve an inventive step in the light of documents 1-8, cited in the international search report.

A person skilled in the art could easily establish that 50% or more of the total parts by mass of the reactive monomers is accounted for by monofunctional monomers, as disclosed in documents 1-4, in order to regulate the thermal effects of postheating in a method for forming protrusions having a curved surface by postheating disclosed in documents 5-8.

The statement in the written reply is based on the claim that use of the specified composition described in example 1 gave a favourable result which was not obtained when the specified composition described in comparative example 1 was used, and is not deemed to apply to claims 4-8 in their entirety.

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## Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The wording of claims 1 and 3 leaves unclear the distinction between the constitution thereof and the prior art.

The restriction regarding application "for forming protrusions having a curved surface" is unclear, since it is a restriction merely as to shape. If the constitution of the compositions in the present application have a characteristic, it is that they can "form protrusions having a curve surface", which does not signify a restriction as to application.

(Since the application of claim 1 has not been deemed to be significant, no international search report has been prepared recognizing this application as significant in presenting an opinion regarding novelty, inventive step and industrial applicability. Therefore, no opinion as to novelty, inventive step and industrial applicability is expressed on the claim in its entirety.

For reference, the examiner considers that unless the types of monomers and the composition are adequately determined, the elements enabling recognition of an inventive step and of support for the claims are lacking.)

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

I. 4.

The amendments relating to claims 3 and 4 and to claims 10 and 11 delimit the features of claims 1 and 8, respectively.

However, the basis for these delimitations is the single description "protrusions for controlling the alignment of liquid crystals, wherein the shape of the protrusions is a smooth curve, the height of the protrusions is 0.5-5  $\mu\text{m}$  and the precision of the height is  $\pm 0.1 \mu\text{m}$  or less", which does not permit other combinations of features - the partial restrictions "protrusion height is 0.5-5  $\mu\text{m}$ " and "the precision of the height is  $\pm 0.1 \mu\text{m}$  or less" are not described independently.

Therefore, claims 3 and 4 and claims 10 and 11 as amended go beyond the scope of the international application as filed.

The amendment relating to claim 17 omits the phrase "to give protrusions having a smooth curve" in cited claim 5 before amendment, for example; and as a result of the omission includes protrusions other than "protrusions having a smooth curve", which goes beyond the scope of the international application as filed.

In addition, in relation to the other claims, 5-9, 12-16 and 18-22, although individual amended claims can be accepted, because no correspondence has been

## Supplemental Box

maintained with the claims as filed, the amendments as a whole cannot be accepted on account of relationships with claims where the amendment cannot be accepted.

It should be noted that when making amendments, if a claim for which an international search has already been produced is amended, it should be amended in such a way as to maintain a correspondence with the claim for which a search has been produced; and additional amendments with intermediate delimitations should be included after the last claim as an addition.